UNITED STATES PATENT AND TRADEMARK OFFICE

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09/922,863	08/07/2001	Seung Jong Choi	3449-0170P	8526

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ART UNIT	PAPER NUMBER
2614	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-20_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-9,11-16,18 and 19_ is/are rejected.

7)☒ Claim(s) _10,17 and 20_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application)
since a specific reference was included in the first sentence of the specification or in an Application Data Sheet.
37 CFR 1.78.

    a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific
reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

Drawings

1.   Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

2.   Claims 8, 9, 11,16,18, 19 are objected to because of the following informalities: in claims 8,9 and 16, and 19, the phrases, "the first bit map data" and "the second bit map data" should be "a first bit map data" and "a second bit map data", respectively; in claim 11 "the memory" should read "a memory"; and, in claim 18, "the decompressed bit map data" should read "a decompressed bit map data".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims **1-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over the

Admitted Prior Art (Fig.1) in view of Sugiyama, U.S. Pat. No. 5,862,412.

Considering claim **1**, the Admitted Prior Art (APA) discloses the following claimed

subject matter, note;

b) a memory for storing the bit map data and image data inputted from an arbitrary

receiving part, and the receiving part receives either digital image data or analog image

data, is met by memory 101, fig.1;

c) an image outputting part for reading the image data from the memory, is met by the

image outputting part 102, fig.1;

d) a display processing part for mixing the image data read from the image outputting

part and the bit map, is met by the display processing part 103, fig.1, which mixes the

image data from the image outputting part and text data (which may be converted into

bit map data before being storing in the memory, according to the Admitted prior art,

page 4, item 19) read from the memory.

     Except for;

a) a data processing part for executing bit map conversion, compression, restoration

and format-conversion for text data;

Regarding a), the admitted prior art (APA) does not specifically disclose a data processing part for executing conversion compression, restoration and format-conversion for text data.   However, the APA discloses that text data is read from memory and mixed in the display processing part, which text is bit map according to the APA and that the text data could be converted to bit map data before it is stored in the memory. (APA, page 4, lines 12-14)

Sugiyama discloses an apparatus for converting document data into bit map data and compressing the display image formed by combining the bit map data and image data.   Sugiyama teaches that the character and picture data compression apparatus 2, Fig.1 comprising bit map conversion section 22, bitmap data compression section 25 character data compression section 26, data storage and recording sections 27 and 28, and data display section 29.   Sugiyama further discloses in Fig.5 a decompression section where data retrieved from the recording section is decompressed and transmitted to the display device via the data display section.   Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of the Admitted Prior Art (Fig.1) by providing the character and picture data compression/decompression apparatus of Sugiyama, so that the compressed bit map data takes less memory to store, thereby making the system less costly and a more compact system over all.

Considering claim **2**, the device as defined in claim 1, wherein the data processing part comprises a bit map converter for determining whether the text data is the bit map data

and converting the text data into the bit map data, based upon the determined result,

and a bit map compressor for compressing the bit map data by using a predetermined

compression coding.

See rejection of claim 1(a). (see also col. 5, line 54 to col. 6, line 6, Sugiyama

'412)

Considering claim **3**, the device as defined in claim 2, wherein the data processing part

further comprises a bit map decompressor for reading the compressed bit map data

from the memory to thereby restore the read data to its original bit map data, and a

format converter for converting the format of the decompressed bit map data to

correspond with the display resolution.

Regarding claim 3, see also rejection of claim 1(a). (see also Figures 5 and 7,

and col. 2, lines 6-23)

Considering claim **4**, the device as defined in claim 1, wherein the text data being at

least one among HTML data, DHTML data, XML data, SGML data and bit map data, is

met by the disclosure in the APA that teaches the text data may be converted to bit map

data before being stored in memory 101; (see APA, page 4)

Considering claim **5**, the device as defined in claim 2, wherein the bit map converter

converts the text data into the bit map data, if it is determined that the text data is not

the bit map data.

Regarding claim 5, as modified above the combination of the admitted prior art and Sugiyama doesn't specifically disclose whether to convert the text data if it is determined that the text data is not the bit map data. However, it would have been obvious to modify the system to check whether or not the text data (character data) is a bit map data and accordingly determine or decide whether to make the conversion, so that unnecessary conversion or processing would be avoided when the data is already in a bit map format, i.e., there would be no need for converting to bit map data if the data is already in a such a format and this processing step would be bypassed.

Considering claim **6**, the device as defined in claim 2, wherein the bit map converter bypasses the text data if it is determined that the text data is the bit map data;

Regarding claim 6, see rejection of claim 5;

Considering claim **7**, the device as defined in claim 2, wherein the predetermined compression coding is a run-length compression coding.

Regarding claim 7, as modified above the combination of the Admitted prior art and Sugiyama does not specifically disclose a run-length compression coding. However, examiner takes Official Notice in that run-length compression is well known in the art and as such it would have been obvious to modify the references by using a compression technique such as the run-length coding compression so that the DC-balancing or DC-wondering of the signal would greatly improve.

5.   For the purpose of this rejection (of claims 8,9, as well as 16 and 19), "the first bit

map data" or "the second bit map data" are, given reasonably broad interpretation, to

mean consecutively (i.e. one after the other) received bit map data which then are

stored in the memory.

Considering claim **8, w**herein the memory stores either the first bit map data or the

second bit map data previously set, is met by the memory 101, fig.1, which stores data

input to it from the D/A converter which would be received consecutively as indicated

above.

Considering claim **9**, the claimed wherein the conversion of the text data is carried out

by using either the first bit map data or the second bit map data.

        Regarding claim 9, as modified above in claim 1, the combination of the APA and

Sugiyama disclose bit map data conversion, compression, decompression as well as

format conversion. However, as modified above, the combination of the APA and

Sugimaya do not specifically disclose the conversion of the text data as being carried

out by using either "the first bit map data" or "the second bit map data". However,

processing the bit map data one after the other or consecutively would be obvious to

those with ordinary skill in the art. Therefore, it would have been obvious to the skilled in

the art at the time the invention was made to modify the system as modified above by

providing a consecutive bit map conversion process so that the conversion from text or

document data would be less prone to error and as a result run more smoothly.

6.   Claims **11-16, 18, and 19** are rejected under 35 U.S.C. 103(a) as being

unpatentable over **Sugiyama**, U.S. Pat. No. 5,862,412 in view of **Horton**, U.S. Pat. No.

5,969,770.

Considering claim **11**, a data processing device in a digital TV, comprising:

a) a bit map converter for determining whether the text data is bit map data, and

converting the text data into the bit map data based upon the determined result, is met

by bit map conversion section 22 and the control section 21, fig. 1;

b) a bit map compressor for compressing the bit map data by using a predetermined

compression coding, is met by the bit map data compression section 25, fig.1; (see col.

8, lines 60-64)

c) a bit map decompressor for reading the compressed bit map data from the memory

for restoring the read data back to its original bit map data, is met by decompression

section 111, fig.5, which reads the compressed data from the recording apparatus 110,

(also in fig.5).

        Except for;

d) a format converter for converting the format of the decompressed bit map data to

correspond with display resolution;

Regarding d), the reference of Sugiyama discloses data display section 105, fig.5

for preparing the data for display. Sugiyama does not specifically disclose a format

converter. However, format converters for bit map data such as Sugiyama's are

notoriously well known in the art. In that regard, Horton discloses animated "on-screen"

display provisions for an MPEG video signal processing system, and teaches a bit map

OSD format converter (figs. 2 & 3) which converts YUV 4:4:4 data into YUV 4:2:2 format

to conform to the desired display resolution. Therefore, it would have been obvious to

the skilled in the art at the time the invention was made to modify the system of

Sugiyama by providing the a bit map format converter of Horton, in order for the data

display section 29 transmit the data corresponding to a desired display resolution or

format, so that the image is displayed properly conforming to the desired resolution.

Considering claim **12**, the device as defined in claim 11, wherein the text data being at

least one among HTML data, DHTML data, XML data, SGML data and bit map data, is

met by the disclosure in the APA that teaches the text data may be converted to bit map

data before being stored in memory 101; (see APA, page 4)

Considering claim **13**, the device as defined in claim 11, wherein the bit map converter

converts the text data into the bit map data if it is determined that the text data is not the

bit map data;

Regarding claim 13, Sugiyama doesn't specifically disclose whether to convert

the text data if it is determined that the text data is not the bit map data. However, it

would have been obvious to modify the system to check whether or not the text data is

a bit map data and accordingly determine or decide whether to make the conversion so

that unnecessary conversion or processing would be avoided when the data is already

in a bit map format.

Considering claim **14**, the device as defined in claim 11, wherein the bit map converter

bypasses the text data if it is determined that the text data is the bit map data.

Regarding claim 14, see rejection of claim 13.

Considering claim **15**, the device as defined in claim 11, wherein the predetermined

compression coding is a run-length compression coding.

Sugiyama does not specifically disclose a run-length compression coding.

However, the run-length compression is well known in the art and as such it would be

an obvious matter of a design choice to modify the reference by using the notoriously

well-known run-length method of compression, since applicant has not disclosed that

the run-length compression solves any stated problem or is for any particular purpose,

and it appears that any type of compression method would function or perform equally

well.

Considering claim **16,** wherein the conversion of the text data is carried out by using either the first bit map data or the second bit map data.

Regarding claim 16, the combination of Sugiyama and Horton as modified above in claim 11, do not specifically disclose the conversion of the text data as being carried out by using either "the first bit map data" or "the second bit map data". However, given a reasonably broad interpretation the processing of the bit map data using one or the other, or one bit map data after another consecutively would be obvious to those with ordinary skill in the art. Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Sugiyama by providing a consecutive bit map conversion processing so that the conversion from text or document data would be less prone to error and as a result run more smoothly.

Considering claim **18**, a data processing device in a digital TV, comprising:

a) a bit map converter for determining whether text data is bit map data and converting the text data into the bit map data, based upon the determined result; a format converter for converting the format of the decompressed bit map data to correspond with display resolution; a bit map compressor for compressing the bit map data by using a predetermined compression coding; a bit map decompressor for reading the compressed bit map data from the memory for restoring the read data back to its original bit map data.

Regarding claim 18, see rejection of claim 11.

Considering claim **19**, wherein the conversion of the text data is carried out by using either the first bit map data or the second bit map data.

Regarding claim **19**, the combination of the Sugiyama and Horton, as modified above in claim **18**, disclose bit map data conversion, compression, decompression as well as format conversion. However, the combination does not specifically disclose the conversion of the text data as being carried out by using either "the first bit map data" or "the second bit map data". However, processing the bit map data one after the other or consecutively would be obvious to those with ordinary skill in the art. Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system as modified above by providing a consecutive bit map conversion process so that the conversion from text or document data would be less prone to error and as a result run more smoothly.

Allowable Subject Matter

7.   Claims **10, 17 and 20** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8.   The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to disclose a data processor comprising a bit map decompressor and format converter, wherein the format converter adjusts the resolution by integrating real number times to either a horizontal direction or a vertical direction of the decompressed bit map data, as in claims **10, 17 and 20**;

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to
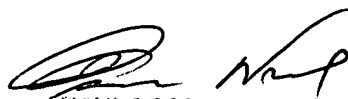
applicant's disclosure.

Margulis, U.S. Pat. No. 6,157,396 discloses system and method for using bit

stream information to process images for use in digital display systems.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to *Paulos M. Natnael* whose telephone number is (703)

305-0019. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Miller can be reached on (703) 305-4795. The fax phone number for

the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703) 308-

HELP.

Paulos Natnael
January 15, 2004

PAULOS M. NATNAEL
PATENT EXAMINER